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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,361	06/28/2004	Masaru Takagi	081356-0219	7605
22428	7590	11/14/2006	EXAMINER	
FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			CARLSON, KAREN C	
			ART UNIT	PAPER NUMBER
			1656	

DATE MAILED: 11/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/500,361

Applicant(s)

TAKAGI ET AL.

Examiner

Karen Cochrane Carlson, Ph.D.

Art Unit

1656

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 29-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 29-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 1656

This Office Action is in response to the paper filed September 12, 2006. Claims 1-28 have been cancelled. New Claims 29-43 are currently pending and are under examination.

Priority is set to December 26, 2001.

**Maintenance of Rejections:**

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 32 and 33 are again rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The gene encoding SEQ ID NO: 125, for example, is not claimed as isolated or purified and therefore read on a product of nature.

Applicants urge that new Claims 29 and 30 state that the peptide has been isolated. The Examiner agrees, but new claims drawn to the gene have not been stated to be isolated, and the gene is not limited to the peptide consisting of a specific sequence. Rather, nucleic acid encoding a specific sequence of a larger sequence still encodes the specific sequence.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent

Art Unit: 1656

or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 30, 32, 33, 35-40 are again rejected under 35 U.S.C. 102(a or e) as being anticipated by Takatsuji et al. (USP 6,215,043; issued April 10, 2001 and filed September 18, 1998).

Takatsuji et al. teach petunia transcription factor PetSPL2 having Takatsuji et al. SEQ ID NO: 2. In Takatsuji et al. SEQ ID NO: 2, amino acid residues 196-203 in the 206 amino acid sequence are:

Asp-Leu-Asp-Leu-Glu-Leu-Arg-Leu

which comprises instant SEQ ID NO: 126 when Z4 is Glu:

Asp-Leu-Glu-Leu-Arg-Leu

and which is or comprises instant SEQ ID NO: 125 when Z1 is Leu or Asp-Leu, Z2 is Glu, and Z3 is 0-3 amino acids:

Leu-Asp-Leu-Glu-Leu-Arg-Leu

Asp-Leu-Asp-Leu-Glu-Leu-Arg-Leu.

Instant SEQ ID NO: 31 and 61 comprise Asp-Leu-Asp-Leu-Glu-Leu-Arg-Leu at amino acid residues 194-201 and 20-27, respectively. Because instant Claim 30 is drawn to SEQ ID NO: 31 and SEQ ID NO: 61 having an indefinite number of deletions, substitutions, and additions, Takatsuji et al. SEQ ID NO: 2 anticipates SEQ ID NO: 125, SEQ ID NO: 26, SEQ ID NO: 31 and NO: 61 (**Claim 30**).

Takatsuji et al. teach the gene encoding PetSLP2 as SEQ ID NO: 1. Therefore, Takatsuji et al. teach a gene encoding Asp-Leu-Asp-Leu-Glu-Leu-Arg-Leu

which comprises instant SEQ ID NO: 126 when Z4 is Glu:

Asp-Leu-Glu-Leu-Arg-Leu

and which is or comprises instant SEQ ID NO: 125 when Z1 is Leu or Asp-Leu, Z2 is Glu, and Z3 is 0-3 amino acids:

Art Unit: 1656

Leu-Asp-Leu-Glu-Leu-Arg-Leu

Asp-Leu-Asp-Leu-Glu-Leu-Arg-Leu (**Claim 32, 33**).

In Example 3, Takatsuji et al. teach that the plasmid pSPORT/PetSPL2 which comprises the gene PetSPL2 (**Claim 35, 38**).

In Example 4, the pSPORT/PetSPL2 vector was used to transform petunia cells (**Claim 36, 39**) and in Example 5, the transformed plants expressing the vector is taught (**Claim 37, 40**).

Claims 30, 32, and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Sato et al. (2000; Structural analysis of arabidopsis thaliana chromosome 3. Sequence features of the regions of 4,504,864 bp covered by sixty P1 and Tac clones. DNA Res. 7: 131-135).

Sato et al. teach TAC clone K14B15 encoding a 172 amino acid zinc finger transcription factor comprising:

Asp-Leu-Asp-Leu-Asp-Leu-Arg-Leu at positions 159-166

which comprises instant SEQ ID NO: 126 when Z4 is Asp:

Asp-Leu-Asp-Leu-Arg-Leu

and which is or comprises instant SEQ ID NO: 125 when Z1 is Leu or Asp-Leu, Z2 is Asp, and Z3 is 0-6 amino acids:

Leu-Asp-Leu-Aps-Leu-Arg-Leu.

Asp-Leu-Asp-Leu-Asp-Leu-Arg-Leu.

Instant SEQ ID NO: 31 and 61 comprise Asp-Leu-Asp-Leu-Glu-Leu-Arg-Leu at amino acid residues 194-201 and 20-27, respectively. Because instant Claim 30 is drawn to SEQ ID NO: 31 and SEQ ID NO: 61 having an indefinite number of deletions, substitutions, and additions, Sato et al. SEQ ID NO: 2 anticipates SEQ ID NO: 31 and NO: 61 (**Claim 30**).

Sato et al. teach the gene encoding TAC clone K14B15 (**Claims 32, 33**).

Art Unit: 1656

Applicants argue Takatsuji et al. and Sato et al. together at page 4 of their response. Applicants urge that the phrase "consists of" overcomes these rejections. As noted below in the New Rejection under 35 USC 112, 2<sup>nd</sup> paragraph, the phrase is indefinite because the options are varied. Regarding Claims 32 and 33, a gene encodes a fragment as well as a full-length protein.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 29-43 are again rejected under 35 U.S.C. 103(a) as being unpatentable over Takatsuji et al. (USP 6,215,043 (issued April 10, 2001 and filed September 18, 1998).

Takatsuji et al. teach petunia transcription factor PetSPL2 having Takatsuji et al. SEQ ID NO: 2. In Takatsuji et al. SEQ ID NO: 2, amino acid residues 196-203 in the 206 amino acid sequence are:

Asp-Leu-Asp-Leu-Glu-Leu-Arg-Leu

which comprises instant SEQ ID NO: 126 when Z4 is Glu (**Claim 29**):

Asp-Leu-Glu-Leu-Arg-Leu

and which is or comprises instant SEQ ID NO: 125 when Z1 is Leu or Asp-Leu, Z2 is Glu, and Z3 is 0-3 amino acids (**Claim 29**):

Leu-Asp-Leu-Glu-Leu-Arg-Leu

Asp-Leu-Asp-Leu-Glu-Leu-Arg-Leu.

Instant SEQ ID NO: 31 and 61 comprise Asp-Leu-Asp-Leu-Glu-Leu-Arg-Leu at amino acid residues 194-201 and 20-27, respectively. Because instant Claim 30 is drawn to SEQ ID NO: 31 and

Art Unit: 1656

SEQ ID NO: 61 having an infinite number of deletions, substitutions, and additions, Takatsuji et al.

SEQ ID NO: 2 anticipates SEQ ID NO: 31 and NO: 61 (**Claim 30**).

Takatsuji et al. teach the gene encoding PetSLP2 as SEQ ID NO: 1 (**Claim 32, 33**).

In Example 3, Takatsuji et al. teach the plasmid pSPORT/PetSPL2 comprises the gene PetSPL2 (Claim 35, 38). In Example 4, the pSPORT/PetSPL2 vector was used to transform petunia cells (**Claim 36, 39**) and in Example 5, the transformed plants expressing the vector is taught (**Claim 37, 40**).

As noted in the restriction requirement:

If Applicants believe that their sequences are so overlapping as to be obvious variants of each other, Applicants may choose a single sequence for search, this sequence being a representative sequence of all sequences or a designated subset of the sequences, as Applicant may choose. If Applicant present a single sequence to represent all sequences claimed, **it will be understood that if this sequence or any sequence is found, the remaining sequences will be considered to be obvious variants of the found sequence.**

Applicants elected Group 3, drawn to peptides having SEQ ID NO: 125: Z1-Asp-Leu-Z2-Leu-Arg-Leu-Z3 wherein Z1 denotes Leu, Asp-Leu, or Leu-Asp-Leu; Z2 denotes Glu, Gln, or Asp; and Z3 denotes 0 to 10 amino acid residues.

Takatsuji et al. teach claimed sequences Asp-Leu-Glu-Leu-Arg-Leu, Leu-Asp-Leu-Glu-Leu-Arg-Leu, and Asp-Leu-Asp-Leu-Glu-Leu-Arg-Leu and the DNA encoding these sequences, vectors, transformants, and transformed plants expressing these sequences. Therefore, the remaining sequences, including the chimeric proteins and genes, are considered to be obvious variants of the found sequences (29-31, 32-43).

Claims 29-33 are again rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (2000; Structural analysis of arabidopsis thaliana chromosome 3. Sequence features of the regions of 4,504,864 bp covered by sixty P1 and Tac clones. DNA Res. 7: 131-135).

Art Unit: 1656

The teachings of Sato et al. regarding Claims 17-23 are set forth above.

As noted in the restriction requirement:

If Applicants believe that their sequences are so overlapping as to be obvious variants of each other, Applicants may choose a single sequence for search, this sequence being a representative sequence of all sequences or a designated subset of the sequences, as Applicant may choose. If Applicant present a single sequence to represent all sequences claimed, **it will be understood that if this sequence or any sequence is found, the remaining sequences will be considered to be obvious variants of the found sequence.**

Applicants elected Group 3, drawn to peptides having SEQ ID NO: 125: Z1-Asp-Leu-Z2-Leu-Arg-Leu-Z3 wherein Z1 denotes Leu, Asp-Leu, or Leu-Asp-Leu; Z2 denotes Glu, Gln, or Asp; and Z3 denotes 0 to 10 amino acid residues.

Sato et al. teach claimed sequences Asp-Leu-Asp-Leu-Arg-Leu, Leu-Asp-Leu-Asp-Leu-Arg-Leu, and Asp-Leu-Asp-Leu-Asp-Leu-Arg-Leu and the DNA encoding these sequences. Therefore, the remaining sequences, including the chimeric proteins and genes, are considered to be obvious variants of the found sequences (Claims 29-33).

Applicants argue both Takatsuji et al. and Sato et al. together at page 4-5 of their response. Applicants urge that the limitations "capable of converting a transcription factor into a transcriptional repressor" reads over the teachings of Takatsuji et al. and Sato, et al. It follows that once the structure has been found, the function is inherent. Therefore, this argument is not persuasive.

#### **New Rejections:**

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make



Art Unit: 1656

and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 30, 31, 33, 34, and 38-43 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicants have amended the claims such that "plurality" has been replaced with "several". Applicants have not stated where there is support for this amendment in the specification, and the Examiner's quick perusal of the specification did not find support for this amendment. Therefore, this is new matter.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 29-43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 29 refers to a peptide that consists of SEQ ID NO: 125 or NO: 126, but each of these sequences gave variable amino acids; therefore, one cannot know what sequence the peptide consists of because the sequence varies.

In Claim 30, it is not clear how many amino acid substitutions, addition, and deletions are encompassed by the term "several". Additionally, Claim 30 refers to a peptide that consists of SEQ ID NO: 31 or NO: 61 with variables; therefore, one cannot know what sequence the peptide consists of because the sequence varies.

Claim 34 refers to a fusion protein of Claim 30, which does not comprise a fusion protein. It appears that Claim 34 should be taken to depend from Claim 31.

Art Unit: 1656

No Claims are allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

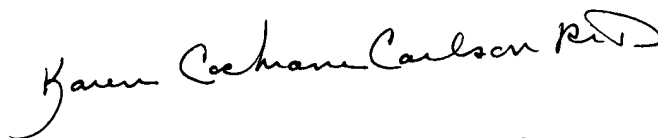
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karen Cochrane Carlson, Ph.D. whose telephone number is 571-272-0946. The examiner can normally be reached on 7:00 AM - 4:00 PM, off alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Kathleen Kerr can be reached on 571-272-0931. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1656

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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A handwritten signature in cursive script that reads "Karen Cochrane Carlson". To the right of the signature is a small, stylized mark that appears to be "RCD".

**KAREN COCHRANE CARLSON, PH.D**  
**PRIMARY EXAMINER**